**Opening Date**: August 17, 2018
**Closing Date**: Open Until Filled
**Work Location**: Austin, Texas
**Posting Number**: 18-75
**Monthly Salary**: $4,023.17 - $5,551.88*
**Group/Class**: B21/2464 or B23/2153
**Travel %**: 20%
**Division/Department**: Water Science & Conservation/Surface Water/Bays & Estuaries
**Number of Positions**: 1
*** Salary commensurate with experience and qualifications**

# JOB VACANCY NOTICE
# Coastal Modeler
# (Hydrologist III/Engineer III)

*Apply Via Mail/Hand Delivery: Texas Water Development Board Stephen F. Austin Building, 1700 North Congress Ave., Room 670, Austin, Texas 78701, via facsimile (512) 463-7644, via email HR@twdb.texas.gov or via Work in Texas (www.workintexas.com). Refer to Human Resources (512) 475-2142. Equal Opportunity Employer*

## Veteran's Preference

Veterans, Reservists or Guardsmen with an MOS or additional duties that fall in the fields of (680X LDO-Meteorology/Oceanography, 15WX Weather, 50 Engineering-General) or other related fields pertaining to the minimum experience requirements may meet the minimum qualifications for this position and are highly encouraged to apply.

Additional Military Crosswalk information can be accessed at
http://www.hr.sao.texas.gov/Compensation/MilitaryCrosswalk/MOSC_NaturalResources.pdf
http://www.hr.sao.texas.gov/Compensation/MilitaryCrosswalk/MOSC_EngineeringandDesign.pdf

## Job Description Summary

Performs highly complex to complex (senior-level) hydrologic and hydrodynamic modeling and studies for the Bays and Estuaries department in the Surface Water Division. Work involves maintaining and applying hydrologic and hydrodynamic and salinity transport models to support the evaluation of freshwater inflow needs for Texas estuaries and water planning studies for the Texas coast. Investigates, develops, and implements the use of numerical methods and data for running hydrodynamic models. Plans and participates in scientific and engineering field studies of state streams, rivers, bays, and estuaries. Attends public meetings and provides technical support to stakeholders and customers. Communicates modeling analyses and study results to general and technical audiences. May train others. Works under limited to general supervision, with considerable to moderate latitude for the use of initiative and independent judgment. Reports to the Manager of the Bays and Estuaries department.

## Essential Job Functions

- Maintains and applies 2D and 3D hydrodynamic and salinity transport models to evaluate freshwater inflow needs for Texas estuaries.
- Enhances, maintains, and runs the existing operational model (*i.e.*, TxBLEND) and assists with development or implementation of new hydrodynamic models for Texas estuaries. May revise existing hydrodynamic model source code or implement new algorithms and functionality.
- Conducts modeling and statistical analyses to support environmental flow and water resources planning studies.
- Writes, executes, and maintains relevant Python, Linux, Fortran, and ArcGIS programs and scripts.
- Applies scripts and programs to develop, modify, and update input data files for model execution and output data files for analysis and visualization of model results.

Female and minority applicants are encouraged to apply.

Males born on or after January 1, 1960, will be required to present proof of Selective Service registration on the first day of employment or proof of exemption from Selective Service registration requirement. All offers of employment are contingent upon the candidate having legal authorization to work in the United States. Failure to present such authorization within the time specified by the U.S. Department of Labor will result in the offer being rescinded. Candidates must be eligible to work in the United States without requiring sponsorship. Only applicants interviewed will be notified of their selection or non-selection. Resumes will not be accepted in place of a completed State of Texas application unless indicated.

HR-002 (Non-Supervisory)
Revised 5/25/2018

Texas Water Development Board

The Texas Water Development Board does not discriminate on basis of race, color, national origin, sex, religion, age, or disability in employment or provision of services, programs, or activities. Please visit TWDB Career Page: http://www.twdb.texas.gov/jobs/ for more information.

*TWDB participates in E-Verify! Information from each new employee's Form I-9 will be provided to the Social Security Administration (SSA) and, if necessary, the Department of Homeland Security (DHS) to confirm work authorization.*

- Writes, reviews, and evaluates technical memos, reports, work process, and policy documents; delivers presentations on study results to technical and non-technical audiences.
- Works with other departments to post updates of data and publications to the agency website.
- Participates in field studies, including planning, on-site work, equipment installation, data acquisition, and data management.
- Provides data, models, information, and technical support to stakeholder groups, scientific committees, and customers.
- Serves as contract manager for research and monitoring contracts.
- Maintains confidential and sensitive information.
- Ensures individual and team files (electronic and hard versions) are appropriately maintained and timely disposed of in accordance with the agency's records retention procedures and schedule.
- Maintains required certifications and licenses and meets the continuing education needs and requirements of the position to include, attending mandatory training courses.
- May be required to operate a state or personal vehicle for business purposes, including the transport and operation of boats and equipment.
- Requires work outdoors, occasionally in small boats, possibly during inclement weather or under hot/cold temperatures.
- Requires work days to occasionally exceed eight hours, including early mornings, late nights, and weekends.
- May travel up to 20% of the time.
- Performs other duties as assigned.

## Minimum Qualifications

- Graduation from an accredited four-year college or university with major coursework in Civil Engineering, Hydrology, Geology, Oceanography, or related field with emphasis in hydrology, hydrodynamics, water resources, or numerical modeling.
- Five years of experience applying or running hydrodynamic, hydrologic, or other numerical models
- Relevant education and experience can be substituted on a year-for-year basis.

## Preferred Qualifications

- Graduate degree, or working towards completion of a graduate degree, from an accredited college or university with major coursework in Engineering or Physical Science with emphasis in coastal oceanography, hydrodynamic modeling, surface water resources, or related field.
- Licensed as a Professional Engineer by the State of Texas.
- Previous experience developing, applying, or running unstructured-grid hydrodynamic or hydrologic models or other numerical models.
- Previous experience modeling baroclinic tracer transport, storm surge, wind wave, coastal inundation, and water quality.
- Previous experience using parallel computing (MPI or OpenMP) on High Performance Computing (HPC) systems.
- Previous experience processing, analyzing, interpreting, and displaying large scientific data sets in different formats (ASCII, NetCDF, binary, *etc.*).
- Previous experience using Unix/Linux operating systems and scripting/programming languages, such as Python, Fortran, Matlab, Perl, Bash, *etc*.
- Previous experience using numerical/visualization tools, such as Matlab, Scipy/Numpy, Tecplot, Gnuplot, VisIT *etc*.

**Knowledge, Skills, and Abilities (KSAs)**

- Knowledge of local, state, and federal laws and regulations relevant to the Bays and Estuaries Department and Surface Water Division, including water management and environmental flows in Texas, and of the principles and practices of public administration.
- Knowledge of scientific, engineering, statistical, modeling, and hydrological principles, techniques, and procedures.
- Knowledge of the practical application of hydrology, hydrodynamics, water quality, and water management technologies.
- Skills in using Microsoft Office programs such as Word, Excel, and Access.
- Skills in use of internet, email, word processing, spreadsheet, presentation, and database software.
- Skills in scientific data collection, management, and interpretation, particularly of hydrologic data.
- Skills in using and applying numerical models, particularly hydrodynamic and salinity transport models, and statistical procedures.
- Skills in programming/scripting languages, such as Python, Fortran, Matlab, or equivalent, including documentation and version control, for developing and modifying software and scripts for conducting analyses and to maintain automated processes.
- Skills in temporal and spatial data analysis techniques (*e.g.*, Matlab, ArcGIS, *etc*.).
- Skills with using mechanical and electrical equipment, including water quality, water velocity, and surveying tools, such as GPS systems, as well as boats and trailers.
- Ability to conduct scientific studies/field operations and perform duties as assigned without direct supervision.
- Ability to interact with public/government officials to initiate studies and to request data pertinent to studies.
- Ability to adhere to work schedules, follow procedures with respect to leave and submit accurate timesheets by prescribed deadlines.
- Ability to make mature, objective decisions and identify areas of potential problems.
- Ability to perform effectively and willingly when changes occur in scope and nature of the work and work environment.
- Ability to perform routine and non-routine work assignments accurately and on-time with little or no supervision.
- Ability to perform assigned duties and improve work habits and/or output.
- Ability to complete assigned work, on time, neatly and with infrequent errors.
- Ability to interpret policies, procedures, and regulations.
- Ability to provide prompt, courteous and accurate assistance and to communicate clearly and concisely to internal and external stakeholders, both verbally and in writing.
- Ability to work and cooperate with others in a team environment.
- Ability to manage multiple tasks and schedule work to maintain regular progress on assignments and meet deadlines.
- Ability to stand/sit/move with no physical limitations or aids to perform activities such as retrieve/replace files in a large file system for boxes up to 30 lbs.
- Ability and willingness to travel up to 20% of the time, primarily within the State of Texas.
- Ability to operate a vehicle (state or personal) for state business and maintain a driver's license and driving record that complies with state and agency requirements.
- Ability to work days that may exceed eight hours, including early mornings, nights, and weekends.
- Ability to train others.
- Ability to lift and carry 30 lbs. over varying terrain, carry equipment in varying weather, and to work in small boats.

- Ability to operate and transport motorized boats up to 25-ft in length safely, effectively, and independently or a willingness to learn.

**Remarks**

- Copy of required academic transcripts and/or licensures and driving record must be submitted at the time of hire. Failure to provide required documentation will result in no further consideration for employment.
- Important Notice: Otherwise qualified candidates who are ultimately considered for potential employment with the Texas Water Development Board may be the subject of a request for any criminal history record information maintained by the Texas Department of Public Safety (DPS). Evidence of a criminal conviction or other relevant information obtained from the DPS shall not automatically disqualify an individual from employment with the Texas Water Development Board.